

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
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Memorandum

Date: June 29, 2021

Subject: NEPA Significance Determination for the Proposed
Blue Water Fisheries Facility in Federal Waters of the Gulf of Maine

To: Record

From: Ken Moraff, Director
Water Division

1.0 Introduction

Blue Water Fisheries, LLC (“BWF” or “the applicant”), is proposing to deploy and operate a commercial-scale, marine finfish aquaculture facility in federal waters in the Gulf of Maine. Operation of the proposed facility would result in a point source discharge of pollutants to waters of the United States (U.S.). Such discharges are prohibited by Section 301(a) of the Clean Water Act (CWA), 33 U.S.C. §§ 1311, *et seq.*, unless authorized by a National Pollutant Discharge Elimination System (NPDES) permit issued by the U.S. Environmental Protection Agency, Region 1 (EPA) in accordance with Sections 306 and 402 of the CWA (the “proposed action”). In addition, the proposed scale and nature of the activity meets the applicability requirements of the Effluent Limitations Guidelines (ELGs) for Concentrated Aquatic Animal Production (CAAP) facilities at 40 CFR § 451.20 and the New Source Performance Standards at 40 CFR § 451.24, which were promulgated on August 23, 2004. As such, the proposed BWF facility also meets the criteria for a “New Source” at 40 CFR § 122.2 and §122.29. In accordance with Section 511(c)(1) of the CWA, EPA’s issuance of an NPDES permit for a new source is subject to the National Environmental Policy Act of 1969 (NEPA), 33 U.S.C. §§ 4321, *et seq.* See also 40 CFR §§ 122.29(c) and 6.101(a).

EPA is responsible for ensuring that its environmental review under NEPA complies with the Council on Environmental Quality’s (CEQ) NEPA regulations, *see* 40 CFR Parts 1500-1508, as well as EPA’s implementing regulations at 40 CFR Part 6, Subparts A through C. 40 CFR § 6.103(b). Under EPA’s procedures, for each proposed action subject to NEPA, the Responsible Official must determine the level of environmental review that is required: i.e., whether the proposed action meets the criteria for a categorical exclusion, whether preparation of an Environmental Assessment (EA) would be sufficient, or whether an Environmental Impact Statement (EIS) is warranted. 40 CFR § 6.200(a). In both EAs and EISs, the federal action agency must assess and consider the purpose and need for the proposed action, the area and environmental resources that would be affected by the proposed action, the environmental effects of the proposed action and potential alternative courses of action, and alternative potential methods of mitigating any adverse effects. NEPA also requires public participation during the

environmental review. *See* 40 CFR § 6.203; 40 CFR Part 1503. Additionally, during the environmental review process, EPA must coordinate with the affected applicants as well as with interested federal agencies, state, and local governments, and federally recognized Indian tribes. *See* 40 CFR §§ 6.103(b)(3), 6.203.

This document presents EPA's determination as to whether the proposed action should be evaluated in an EA or an EIS based on the CEQ regulations (40 CFR Parts 1500 - 1508) and EPA's implementing regulations (40 CFR Part 6). EPA will refer to this determination as a "Significance Determination" because an EIS is required if the proposed action constitutes a major federal action *significantly* affecting the human environment. *See* 42 U.S.C. § 4332(2)(C).

BWF has applied to EPA for an NPDES permit for the point source discharge of pollutants from its proposed marine finfish aquaculture facility that would be located in federal waters in the Gulf of Maine. While EPA is conducting this Significance Determination independently, it has also been coordinating with the U.S. Army Corps of Engineers (USACE) and the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NOAA Fisheries) on how the NEPA review will be implemented going forward. EPA understands that the USACE is undertaking a similar Significance Determination as part of its work to respond to a request from BWF to issue a permit under Section 10 of the Rivers and Harbors Act (RHA) for its proposed project. Additionally, EPA has discussed with NOAA Fisheries various aspects of the proposed activity that could potentially impact natural resources under the purview of the latter agency. In particular, this discussion has focused on federally protected species and critical habitat listed under the Endangered Species Act (ESA) or protected under the Marine Mammals Protection Act (MMPA), as well as on the essential fish habitat (EFH) of federally managed commercial species designated under the Magnuson-Stevens Fishery Conservation and Management Act.

2.0 Proposed Project

The applicant proposes to construct a commercial-scale marine finfish aquaculture facility within federal waters in the Gulf of Maine. The applicant plans to initially deploy and operate four pens but at full operation expects to construct and operate 40 pens that will produce up to 25.6 million pounds of steelhead trout (*Oncorhynchus mykiss*) annually. Lumpfish (*Cyclopterus lumpus*) will also be stocked in the offshore pens as part of a University of New Hampshire study on the use of lumpfish as a natural way to manage external parasites on cultured fish.

As proposed, the facility will occupy two 265-acre sites, although the actual footprint of a 20-pen array is 229 acres per site. At each site there will be 20 submersible net pens in a 2 x 10 grid. The diameter of each pen is 45.6 meters (m) with a rearing volume of 14,500 cubic meters. The pens will remain submerged approximately 15 m below the surface except when being serviced. The applicant indicates that culturing operations will occur continuously throughout the year.

The Project Summary submitted by the applicant in September 2020 indicates that it will obtain trout eggs from west-coast-based hatcheries, which will then be raised at the applicant's land-based, freshwater hatchery (to be built by the applicant somewhere along the New Hampshire [NH] coast) before being transferred to the offshore net pens. Thus, development of an onshore hatchery is an important part of the applicant's overall project. A land-based hatchery may require an NPDES permit if it discharges pollutants to U.S. waters, however, it will not be covered under the NPDES permit for the offshore facility. To date, the applicant has not provided any additional information about a land-based

hatchery. The transfer of eggs or live fish into the state in which the hatchery is located will require review and approval by the appropriate state and federal agencies. The NEPA review should identify the source of eggs and/or fish that will ultimately stock the offshore pens and explain what measures will be taken to prevent the introduction of pathogens and non-native species into state or federal waters.

3.0 Proposed Action Area

The applicant and NOAA’s National Centers for Coastal Ocean Science (NCCOS) conducted a site screening process to identify potentially appropriate project sites. Some of the criteria considered during the site screening process included distance from service ports, water depth, wave height, prevailing currents, avoidance of hard or complex benthic habitat, areas of high use by federally-protected species, commercial fishing activities, coastal vessel traffic, military operations, and existing pipelines, cables, and areas of archeological significance (e.g., ship wrecks). NCCOS issued a Coastal Aquaculture Siting and Sustainability alternative site suitability analysis report (CASS report) for the BWF project and identified eight potential locations meeting the project’s general requirements. From these eight sites, BWF preliminarily selected two preferred sites in its NPDES application, identified in the CASS report as Sites 2 and 3. The two preferred sites are in the Gulf of Maine approximately nine (9) nautical miles southeast of Hampton, NH. The coordinates of the four corners of each of the two preferred sites are provided below.

Site 2		Site 3	
Longitude	Latitude	Longitude	Latitude
-70.622537	42.822296	-70.642478	42.837425
-70.641075	42.822661	-70.623907	42.837124
-70.640895	42.829019	-70.624102	42.830772
-70.622355	42.828655	-70.642672	42.831073

4.0 Evaluation of Significance Criteria

Federal agencies use criteria from multiple sources to aid in determining the significance of a proposed action and whether an EA or EIS is the appropriate NEPA document for the proposed action, or whether the action might qualify for a “categorical exclusion” from further NEPA review. First, the CEQ regulations specify factors for determining the significance of impacts of a proposed action. 40 CFR § 1501.3. In assessing the appropriate level of environmental review, the federal agency determines whether the proposed action is likely to have significant effects. *See* 40 CFR § 1501.3(a). In considering whether the effects are likely to be significant, the federal agency analyzes the potentially affected environment and the degree of effects of the action, including consideration of the affected area and its resources (such as listed species and designated critical habitat under the ESA), the long- and short-term effects, beneficial and adverse effects, effects on public health and safety, and any effects that would violate federal, state, tribal, or local law protecting the environment. 40 CFR § 1501.3(b)(1) and (2). Second, federal agencies apply criteria from their own NEPA regulations. For example, EPA’s NEPA regulations at 40 CFR Part 6 also contain criteria for determining the significance of impacts for proposed actions. *See* 40 CFR §§ 6.200 and 6.207.

Therefore, in assessing the appropriate level of NEPA review for the proposed action, EPA looked both to the CEQ significance criteria listed at 40 CFR § 1501.3 and to EPA’s NEPA regulations at 40 CFR

Part 6. This document presents EPA's assessment of the proposed action's potential effects on the environment and the degree of those effects.

(1) Categorical Exclusion (40 CFR § 1501.3(a)(1)).

Federal agencies may categorically exclude from additional environmental review categories of their actions that they determine normally do not significantly affect the human environment and do not require preparation of an EA or EIS. 40 CFR §§ 1501.3(a)(1), 1501.4 and 1508.1(d). A proposed action by EPA may qualify for such a categorical exclusion from further environmental review if it falls within the categories of actions identified by EPA and listed in 40 CFR § 6.204(a)(1)(i) – (v) or 40 CFR § 6.204(a)(2)(i) – (x), and it does not involve any extraordinary circumstances that would preclude application of the categorical exclusion. *See* 40 CFR §§ 6.102(b)(6) and 6.204. The proposed commercial-scale finfish aquaculture operation, located in federal waters of the U.S., is not one of the actions eligible for categorical exclusion. *See* 40 CFR § 6.204. Therefore, the proposed action is not categorically excluded and requires preparation of an EA or EIS. *Id.*

(2) Environmental Assessment (not likely to have significant effects or the significance of the effects is unknown) (40 CFR § 1501.3(a)(2)).

An EA may be appropriate when a proposed action is unlikely to have significant environmental effects or the significance of the effects is unknown. 40 CFR § 1501.5. Once an EA is prepared, the federal action agency may decide based on the EA that the proposed project will not cause significant environmental effects and conclude the environmental review with a Finding of No Significant Impact (FONSI). *See* 40 CFR §§ 1501.5(c)(1), 1501.6, 1508.1(h) and (l). Alternatively, the federal action agency's work on the EA may lead it to decide that the action *is* likely to significantly affect the environment and that preparation of an EIS is needed. *See id.* *See also* 40 CFR § 6.205(d). Preparation of an EA is not, however, a prerequisite to preparation of an EIS; in many cases, the federal action agency will move directly to preparation of an EIS. If an EIS seems likely, it may be appropriate and more efficient to move directly to preparation of the EIS instead of first preparing an EA.

For EPA, the types of actions that normally require the preparation of at least an EA include the issuance of new source NPDES permits under section 402 of the CWA. 40 CFR § 6.205(b)(2). The proposed action in this case is the issuance of a new source NPDES permit for the BWF aquaculture operation located in federal waters. For this proposed action, the magnitude of the effects of the proposed pollutant discharges are not fully understood, but the potential for significant effects to occur exists based on, among other things, the proposed physical size of the operation, the production levels of the facility, and the location of the proposed sites relative to North Atlantic right whale (*Eubalaena glacialis*) (hereafter referred to as "right whale") critical habitat and known Atlantic cod (*Gadus morhua*) spawning habitat. In addition, there are no existing commercial offshore finfish aquaculture operations in the U.S. of similar size and production level with which to make comparisons and support an assessment of the likely impacts. Furthermore, due to lack of information provided about the onshore fish hatchery proposed by the applicant to support the offshore aquaculture facility, EPA cannot assess or define the effects associated with the onshore facility, but there is the potential for significant impacts from, among other things, pollutant discharges and construction impacts. EPA's regulations specify that preparation of an EIS is typically required if the "proposed action involves uncertain environmental effects or highly unique environmental risks that are likely to be significant." 40 CFR § 6.207(a)(3)(vii).

(3) Environmental Impact Statement (likely to have significant effects) (40 CFR § 1501.3(a)(3)).

An EIS is appropriate when a proposed action is likely to have significant effects. *See* 40 CFR § 1501.3(a)(3). *See also* 40 CFR Part 1502. In considering whether the effects of a proposed federal action are likely to be significant, federal agencies assess the magnitude of the likely effects of the action on the potentially affected environment. 40 CFR § 1501.3(b). For EPA, the types of actions that normally require preparation of an EIS are listed at 40 CFR § 6.207(a)(1) and include, but are not limited to, issuance of a new source NPDES permit for a new major industrial discharge (40 CFR § 6.207(a)(1)(iii)); issuance of a new source NPDES permit for a new oil/gas development and production operation on the outer continental shelf (40 CFR § 6.207(a)(1)(iv)); and issuance of a new source NPDES permit for a deep-water port with a project discharge in excess of 10 million gallons per day (40 CFR § 6.207(a)(1)(v)). Proposed actions also normally require an EIS if they meet any of the criteria listed at 40 CFR § 6.207(3), and include, but are not limited to, actions that would result in discharges likely to have a significant effect on the quality of the receiving waters (40 CFR § 6.207(3)(i)); actions likely to have significant adverse effects on surface water reservoirs or navigation projects (40 CFR § 6.207(3)(iii)); actions involving uncertain environmental effects or highly unique environmental risks that are likely to be significant (40 CFR § 6.207(3)(vii)); and actions likely to significantly affect environmentally important natural resources such as coastal zones and significant fish or wildlife habitat (40 CFR § 6.207(3)(ix)).

As explained in detail below, EPA believes the effects of the proposed action on threatened and endangered species and one or more federally managed commercial species and their habitats (i.e., essential fish habitat) could be significant. The potential for this project to impact the endangered right whale, or its designated critical habitat, is sufficient basis alone for requiring an EIS. There is also the potential for significant impacts from, at a minimum, the construction of the onshore hatchery and the discharge of pollutants from that facility. The significance of all the impacts will be better understood through a comprehensive evaluation associated with the development of an EIS. An EIS will also provide the opportunity to evaluate siting options in greater detail and inform decisions on how best to avoid or minimize impacts to protected and managed species, and their habitats.

(a) In considering the potentially affected environment, agencies should consider, as appropriate to the specific action, the affected area (national, regional, or local effects) and its resources, such as listed species and designated critical habitat under the ESA. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend only upon the effects in the local area. 40 CFR § 1501.3(b)(1).

The applicant has proposed establishing two 265-acre sites in federal waters for its full 40-pen facility (20 pens per site). One of the preferred sites overlaps with designated essential fish habitat for 24 species,¹ and with the designated Atlantic cod spawning management area known as “Whaleback.” Management of the Whaleback cod spawning management area includes seasonal closures and restrictions on fishing gear to protect bottom spawning habitat. The other site would be directly adjacent to the management area. One potential adverse impact on this vulnerable area is the accumulation of unconsumed fish feed and metabolic waste on the seafloor from the BWF facility’s discharge. The settlement of organic waste from the facility could degrade benthic habitat conditions and negatively affect the spawning success of Atlantic cod and other commercially important species, as well as forage and other non-commercial species. The record does not demonstrate that any particular technology or management practices are planned for minimizing the discharge of unconsumed fish feed beyond the pen structures, nor is there sufficient information available to predict where on the seafloor the solid

¹ NOAA Habitat Conservation Essential Fish Habitat Mapper. <https://www.habitat.noaa.gov/protection/efh/efhmapper/>

waste would settle. Therefore, the potential adverse effects to benthic habitats from the accumulation of unconsumed feed and fish excrement associated with a year-round commercial operation of the proposed scale are not well-understood, but EPA believes that the adverse effects could be potentially significant given that BWF intends to produce up to 25.6 million pounds of fish per year with up to 4.85 million pounds of feed used in a single month. EPA cannot assess the affected area for the onshore hatchery because the applicant has not identified either its preferred location, or any alternative locations it is considering, for this facility.

In addition to organic loading to the benthos from the facility's discharges, other aspects of the proposed project could also potentially affect cod habitat and/or mating or spawning behavior in proximity to the fish pens. Possible impacts to cod spawning success from the presence and movement of fish pens or their anchoring support within the water column and on the seafloor also need to be evaluated. This is particularly important considering the cod stock's poor status and this species' tendency to return to mate and spawn in discrete locations, such as Whaleback. Similarly, any noise generated from the facility above ambient levels will also need to be evaluated to determine if it impacts cod behavior and spawning success.

The record does not indicate whether any animal drugs or other therapeutics will be used and discharged into federal waters, in their original form or as metabolites. Should the applicant decide that drugs will or may be needed, those drugs will need to be evaluated for their potential impacts to non-target biota residing on the seafloor and in the water column before being authorized for use.

Finally, the continuous presence of large numbers and dense concentrations of steelhead trout in the pens, and the unconsumed food and metabolic waste associated with their culture, will likely attract other fish, as well as benthic invertebrates, marine mammals, birds, and possibly even sea turtles (seasonally) to these sites. The pen structures, nets, and related support and anchoring lines themselves may attract organisms to an offshore environment that is largely absent of any such structures, including bio-fouling organisms and those that forage on them. While this artificial habitat created by the structures and the "bird feeder-effect" associated with a regular discharge of organic material could be environmentally benign, or even beneficial in some respects, their impact on cod, as well as other resident biological communities in the project area, needs to be evaluated. The decommissioning and removal of the net pens, and related structures and lines, at the termination of the facility's operation needs to be described, as well.

NCCOS's CASS report identifies several siting considerations that must be addressed during the NEPA review process. Among them is potential for impacts to federally protected species. The report indicates that the proposed project area, which encompasses all eight sites being considered, overlaps designated critical habitat for the right whale and is in vicinity of the known habitat of several other ESA-listed species, including fin whale (*Balaenoptera physalus*), Atlantic sturgeon (*Acipenser oxyrinchus*), loggerhead sea turtle (*Caretta caretta*), green sea turtle (*Chelonia mydas*), Kemp's ridley sea turtle (*Lepidochelys kempii*), and leatherback sea turtle (*Dermochelys coriacea*).²

The right whale is one of the world's most endangered large whale species, with an existing population estimated to be less than 400 individuals, according to NOAA Fisheries. Vertical lines associated with fixed fishing gear, such as those used in the lobster and gill net fisheries, represent entanglement hazards

² NOAA Fisheries Greater Atlantic Region ESA Section 7 Mapper.

<https://noaa.maps.arcgis.com/apps/webappviewer/index.html?id=1bc332edc5204e03b250ac11f9914a27>

to the right whale. Because of this, newly implemented fishing regulations drastically reduce the number of vertical lines allowed by lobster fishermen in certain areas where right whales may be present. It is unclear to what extent the lines required to anchor and secure in place BWF's fish pens represent an entanglement or injury risk to right whales, or other whale species that may be present (e.g., fin whale), but the presence of these lines alone may alter the behavior of feeding whales, possibly to the whales' detriment. The project, as presented in the applicant's project summary, requires lines that run vertically, horizontally, and diagonally. Some extend from the seafloor to surface, others from seafloor up to within 8-15 meters below the surface. In reviewing the project plan, EPA counted a total of 241 lines, or line segments, that would be required for each site, making a total of 482 for the two sites. The NEPA review needs to evaluate and consider the potential effects of these lines, and all aspects of the project, on right whales and their designated critical habitat.

The NEPA review will need to consider how the proposed project may affect all ESA-listed species and their habitats, including gear interactions and potential impacts to prey abundance and distribution. A formal consultation with NOAA Fisheries under Section 7 of the ESA will be required if issuance of the NPDES and/or USACE permits may affect listed species. The ESA generally prohibits actions that would jeopardize the continued existence of listed species or would result in the destruction or adverse modification of critical habitat. ESA consultation for the project can and should be coordinated with the environmental review under NEPA.

(b) In considering the degree of the effects, agencies should consider the following, as appropriate to the specific action: (i) both short- and long-term effects; ii) both beneficial and adverse effects;(iii) effects on public health and safety; and (iv) effects that would violate federal, state, tribal, or local law protecting the environment. 40 CFR § 1501.3(b)(2)

The magnitude of the effects of the proposed action are not well understood based on the available record. Construction and operation of a commercial scale, offshore aquaculture facility will likely have both short-term effects (e.g., resulting from disturbance during construction) and long-term effects (e.g., ongoing discharge of organic waste). An evaluation of the potential for these impacts to adversely affect aquatic resources, particularly spawning habitat for Atlantic cod and designated critical habitat for the endangered right whale, is required. In addition, EPA has been unable to assess the impacts from the proposed onshore hatchery because the applicant has yet to identify the proposed location for the facility or provided any information about its planned operations, such as data about its likely pollutant discharges and the characteristics of the water body that will receive those discharges.

According to information provided by the applicant, rainbow trout eggs will be acquired from a west coast facility to be hatched in BWF's own hatchery and raised to the point where they can be transferred offshore to the net pens. The potential for disease transmission and the escape of cultured fish from the onshore hatchery and net pens needs to be evaluated, as do the possible environmental implications of any of such disease transmission or escapement for affected biological communities. In addition, the proposed project has the potential to impact navigational routes for commercial, military, and recreational vessels, and to impede access to the project area for commercial fishers who traditionally work these areas. Finally, the potential impacts on coastal habitats in state waters should be considered.

Beneficial effects of this project likely include an increase in available fish to domestic markets that are experiencing a steady increase in seafood demand. Short and long-term employment opportunities, and other economic benefits associated with the construction, deployment, and maintenance of the net pens

and the onshore hatchery, as well as with the processing of cultured fish, will likely result from this project and should be evaluated.

5.0 Level of Significance Determination

EPA has reviewed the possible effects of the proposed activities under the CEQ significance criteria listed at 40 CFR § 1501.3 (a)(1) - (b)(2)(iv) and EPA's regulations at 40 CFR Part 6. As explained in Section 4.0, above, EPA finds that the environmental impacts of the proposed activity are likely to be significant. In particular, EPA finds that the potential impacts to threatened and endangered species and designated critical habitat, as well as to essential fish habitat and a cod spawning management area, are likely to be significant and require the appropriate level of evaluation. In addition, EPA finds, as discussed above, that the effects of the related onshore fish hatchery are uncertain but potentially significant. For these reasons, EPA finds that preparation of an EIS is warranted to support decision-making regarding the requested new source NPDES permit for the proposed activity.

Executive Order (E.O.) 13921 (May 7, 2020) sets forth certain requirements for aquaculture projects that require environmental review or authorization by two or more federal agencies. As explained above, the proposed BWF project is in federal waters and requires authorization from EPA and USACE. Section 6(a)(i) of this E.O. states that NOAA is designated as the "lead agency" for aquaculture projects located outside of the waters of any state or territory and within the exclusive economic zone of the U.S. and shall be responsible for navigating the project through the federal environmental review and authorization process, including the identification of a primary point of contact at each cooperating and participating agency. See also 40 CFR §1501.7. In accordance with this E.O., EPA expects that NOAA will take the lead on the environmental review for both EPA's and the USACE's proposed actions. EPA will serve as a cooperating agency on the EIS in accordance with 40 CFR § 1501.8.